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Training Health Care Professionals in Interprofessional Collaborative Cancer Care

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Abstract

Today's health care professionals need training to be able to practice in an interprofessional collaborative environment. Trainees learning to provide quality cancer care benefit from exposure to and immersion in interprofessional patient-centered team-based care. A large Midwestern Veterans Affairs Medical Center was awarded a three year grant to integrate interdisciplinary and interprofessional collaborative practice into an ambulatory cancer clinic and to train interdisciplinary health care professional learners in this model of cancer care. A core curriculum was developed to prepare trainees in veteran-centered collaborative cancer care, and clinical experiences were designed to involve trainees in the care provided by all disciplines. The impact of this interprofessional model of care on patient and trainee outcomes is emphasized. Feasibility and sustainability of the model are also discussed.

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Introduction

Training health care professionals to meet the complex health care demands of today's patients requires that they are well prepared to practice in an interprofessional collaborative environment. Historically, clinical training has been discipline-specific, with little opportunity to engage in inter-professional experiences (Bridges, Davidson, Odegard, Maki, & Tomkowiak, 2011). With the challenges of the burgeoning health care system, practitioners must be trained to provide care collaboratively rather than in isolation so as to prevent medical errors and decrease duplication of services and health care cost. Health care professionals trained in interprofessional collaborative practice are more likely to demonstrate respect for other professionals' roles and responsibilities and to become collaborative members of the team (Barker & Oandasan, 2005). Ultimately, this collaboration has been shown to improve patient outcomes of quality and safety for a variety of acute and chronic illnesses such as cancer and diabetes (Gagliardi, Dobrow, & Wright, 2011; Litaker et al., 2003).

Interprofessional education has been defined as "an intervention where the members of more than one health or social care profession, or both, learn interactively together, for the explicit purpose of improving interprofessional collaboration (IPC) or the health/wellbeing of patients/clients, or both" (Reeves, Perrier, Goldman, Freeth, & Zwarenstein, 2013). Many medical schools and nursing programs are beginning to integrate interprofessional practice education into their curricula. Programs offer didactic sessions and many are now introducing interprofessional clinical experiences where the application of the principles of collaboration, communication, and respect are encouraged (Owen, Brashers, Peterson, Blackhall, & Erickson, 2012).

In 2011, the Interprofessional Education Collaborative issued "Core Competencies for Interprofessional Collaborative Practice (IPCP): Report of an Expert Panel." The expert panel included representatives from the American Association of Colleges of Nursing, the American Association of Colleges of Osteopathic Medicine, the American Association of Colleges of Pharmacy, the American Dental Education Association, the Association of American Medical Colleges, and the Association of Schools of Public Health. They established the four essential competency domains:

- 1) Values/Ethics for Interprofessional Practice;
- 2) Roles/Responsibilities;
- 3) Interprofessional Communication; and
- 4) Teams and Teamwork.

Within each essential domain are a number of behaviors that demonstrate competencies associated with that domain. These competencies are obtained over three phases at the pre-licensure level: exposure, immersion, and competence. At the graduate level, the emphasis is on mastery. For graduate trainees who have not been introduced to interprofessional collaboration, exposure, and immersion are still the stepping-stones to competency (Interprofessional Education Collaborative Expert Panel, 2011).

This paper is a report of a three-year interprofessional grant-funded project at a large Midwestern Veterans' Affairs Medical Center (VAMC) ambulatory cancer clinic. The goals of the project were to 1) integrate the principles of interprofessional collaboration into an interdisciplinary clinic to improve the quality of cancer care and 2) to educate health care professional trainees from a variety of disciplines in interprofessional practice by providing them with opportunities for collaboration, exposure, and immersion into interprofessional collaborative practice. A critical component of this exposure and immersion was the emphasis on a quality experience rather than on numbers of patients seen. Quality rather than quantity made the educational experience much richer for the trainees than other more traditional clinical rotations.

Louis Stokes Cleveland Veteran's Affairs Medical Center Model of IPC

The Louis Stokes Cleveland VAMC was awarded a grant from the Offices of Academic Affiliations and Specialty Care to fund a three year project, "Transforming and Integrating Medical and Surgical Expertise" (TIE). This project involved the development of an interprofessional and interdisciplinary cancer clinic that provides patient-centered specialty care for veterans with selected cancers of breast, melanoma, sarcoma, and lymphomas. The selected cancer population was based on faculty expertise.

Veterans were referred to the Center of Excellence (CoE) cancer clinic with a cancer concern, a new diagnosis of

cancer, ongoing cancer treatment, and/or survivorship. Outcomes of the project were timely access to quality cancer care, coordinated interdisciplinary consultations, and interprofessional team-based care that includes referring primary care providers.

In order to implement the interprofessional clinic successfully, the faculty of the CoE were trained in team interaction and spent the first six months learning about interprofessional collaborative practice (Silver & Leslie, 2009). Learning sessions focused on identifying roles and responsibilities, valuing and respecting each other's disciplines, and learning communication strategies to work effectively as a team. Policies and procedures were developed for each discipline within the team, for the team as a whole unit, and for referral to the CoE specialty care clinic. This learning process was completed before trainees were brought into the clinic setting.

The Interprofessional Clinic Collaborative Practice

The Specialty Care–Cancer CoE clinic was designed around the patient. Most patient appointments were made with either the physician (medical and/or surgical oncologist) or the advanced practice nurse whose role was the survivorship nurse practitioner (NP). Depending on patient needs, the social worker, psychologist, clinical nurse specialist (CNS) patient navigator, and/or other disciplines participated in the veteran's clinic appointment. In true interprofessional manner, all disciplines needed for quality cancer care saw the veteran at that clinic appointment. This process allowed the patient to stay in his/her outpatient exam room rather than traveling around the clinic for appointments with other disciplines or having to come back another day. The trainee(s) assigned to the patient stayed with the patient during all professional encounters. This educational experience gave the trainees the opportunity to learn roles and responsibilities of each member of the interdisciplinary team.

The clinic day began with a team meeting 7:30–9:00 AM. The pre-clinic meeting provided an opportunity to role-model team-based, patient-centered care for the trainees (Shunk, Dulay, Chou, Janson, & O'Brien, 2014). The meeting helped to strengthen collaboration among team members, structured the team scheduling for the day, and encouraged a holistic approach to veteran problems and concerns. All patients scheduled for that day were reviewed in the morning; past history

and current treatment plans were discussed. All team members involved in the patient's care contributed to the discussion.

Patients were seen from 9:00 AM–12:00 noon. Patient appointments were scheduled every half-hour to allow time for trainees to work closely with each veteran and their family members as well as other members of the team. At noon, there was an hour teaching conference, and patients were scheduled again from 1:00–2:30 PM so that the team could meet again from 3:30–4:30 PM to review patient care and provide additional teaching opportunities. Trainees were expected to discuss their patients with the team during the afternoon meeting and to seek input from the disciplines involved in the treatment plan.

As part of the project, distress screening and management was a major focus of quality cancer care. All veterans participated in distress screening at every visit. The veterans were given the National Comprehensive Cancer Network® (NCCN®) distress thermometer (DT) at check-in at every visit by the receptionist and were asked to fill it out prior to their clinic visit. The DT addresses the multiple dimensions of cancer-related distress (Figure 1, following page). According to the NCCN Clinical Practice Guidelines In Oncology (NCCN Guidelines®), scores of 4 or more require intervention (NCCN Guidelines® for Distress Management, V.2.2013).

The RN on the team reviewed the distress screening responses and alerted the appropriate disciplines depending on patient's overall score and endorsed components of distress. Patients who scored four or greater, or endorsed multiple components, were offered immediate intervention. If the distress was associated with physical symptoms, the oncologist or nurse practitioner (NP) intervened. If the score was associated with practical or family problems, the social worker performed an assessment and provided appropriate interventions. The psychologist was involved if patients endorsed emotional problems. Many times, the distress was multifactorial, and the patient was seen by multiple members of the interprofessional collaborative cancer care practice.

Trainees' Experiences

The interprofessional faculty was committed to mentoring trainees in patient centered cancer care and

Figure 1. *Distress Thermometer*

NCCN National Comprehensive Cancer Network® **NCCN Guidelines Version 2.2013**
Distress Management

[NCCN Guidelines Index](#)
[Distress Management TOC](#)
[Discussion](#)

SCREENING TOOLS FOR MEASURING DISTRESS

Instructions: First please circle the number (0-10) that best describes how much distress you have been experiencing in the past week including today.

Extreme distress

10

9

8

7

6

5

4

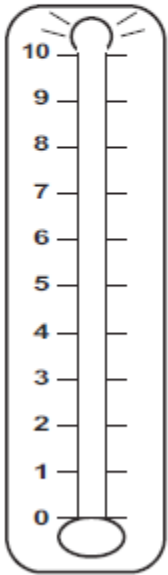
3

2

1

No distress

0



Second, please indicate if any of the following has been a problem for you in the past week including today. Be sure to check YES or NO for each.

YES	NO	<u>Practical Problems</u>	YES	NO	<u>Physical Problems</u>
<input type="checkbox"/>	<input type="checkbox"/>	Child care	<input type="checkbox"/>	<input type="checkbox"/>	Appearance
<input type="checkbox"/>	<input type="checkbox"/>	Housing	<input type="checkbox"/>	<input type="checkbox"/>	Bathing/dressing
<input type="checkbox"/>	<input type="checkbox"/>	Insurance/financial	<input type="checkbox"/>	<input type="checkbox"/>	Breathing
<input type="checkbox"/>	<input type="checkbox"/>	Transportation	<input type="checkbox"/>	<input type="checkbox"/>	Changes in urination
<input type="checkbox"/>	<input type="checkbox"/>	Work/school	<input type="checkbox"/>	<input type="checkbox"/>	Constipation
			<input type="checkbox"/>	<input type="checkbox"/>	Diarrhea
			<input type="checkbox"/>	<input type="checkbox"/>	Eating
			<input type="checkbox"/>	<input type="checkbox"/>	Fatigue
			<input type="checkbox"/>	<input type="checkbox"/>	Feeling Swollen
			<input type="checkbox"/>	<input type="checkbox"/>	Fevers
			<input type="checkbox"/>	<input type="checkbox"/>	Getting around
			<input type="checkbox"/>	<input type="checkbox"/>	Indigestion
			<input type="checkbox"/>	<input type="checkbox"/>	Memory/concentration
			<input type="checkbox"/>	<input type="checkbox"/>	Mouth sores
			<input type="checkbox"/>	<input type="checkbox"/>	Nausea
			<input type="checkbox"/>	<input type="checkbox"/>	Nose dry/congested
			<input type="checkbox"/>	<input type="checkbox"/>	Pain
			<input type="checkbox"/>	<input type="checkbox"/>	Sexual
			<input type="checkbox"/>	<input type="checkbox"/>	Skin dry/itchy
			<input type="checkbox"/>	<input type="checkbox"/>	Sleep
			<input type="checkbox"/>	<input type="checkbox"/>	Tingling in hands/feet

Family Problems

☐ ☐ Dealing with children

☐ ☐ Dealing with partner

☐ ☐ Ability to have children

☐ ☐ Family health issues

Emotional Problems

☐ ☐ Depression

☐ ☐ Fears

☐ ☐ Nervousness

☐ ☐ Sadness

☐ ☐ Worry

☐ ☐ Loss of interest in usual activities

Spiritual/religious concerns

☐ ☐

Other Problems: _____

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interprofessional collaborative practice. All disciplines practicing had trainees with them. What made this experience unique was that the trainee had primary mentoring from a faculty member of their own discipline, but participated in experiences with all faculty from all disciplines.

Trainees came from the Family Medicine Residency program at University Hospitals (UH) Case Medical Center, Medical Oncology Fellows from the UH Case Comprehensive Cancer Center, nurse practitioner and other advanced practice nursing students from the Frances Payne Bolton School of Nursing, Ursuline EDUCATIONAL STRATEGY

College, and Cleveland State University, as well as social work interns from the Mandel School of Social Work, and psychology doctoral and post-doctoral students from a variety of doctoral programs. At any given time, there were as many as six interdisciplinary trainees in the clinic. Trainees' rotations ranged from one day observation to 6-12 months of intensive training, depending on the discipline. The majority of the trainees were in the clinic for four week rotations.

The trainees were oriented to interprofessional collaborative practice on the morning of their first day in the clinic. They received a Specialty Care–Cancer

Orientation Manual that contained information on the clinic process and procedures, the four essential components of the evidence-based CoE curriculum (Values/Ethics for Interprofessional Practice; Roles/Responsibilities; Interprofessional Communication; and Teams and Teamwork), PowerPoint slides and case studies from the noon conferences, trainee evaluation instruments, and references.

Trainees were assigned to patients by the educator on the team as well as by team input and were instructed to stay with their assigned patients throughout the veteran’s clinic visit and observe all disciplines providing care.

Core Curriculum

All trainees attended a morning mini conference (15 minutes) immediately following the pre-clinic meeting. This conference addressed management of complex types of cancer, tied to the diagnosis of the patients being seen in the clinic (Table 1). The trainees actively participated in the noon conference series, which

focused on four core concepts of the specialty care CoE clinic training: Interprofessional Collaborative Practice; Project Transforming and Integrating Medical Surgical Expertise Foci: (Distress, Patient Navigation, and Cancer Survivorship); Communication; and Radiology for Trainees (Ultrasound Basics and/or Diagnostic and Screening Radiology for Cancer Care). Case discussions and roleplay were integrated into the noon sessions (Figure 2, following page).

Trainees’ Evaluation

To date, the Specialty Care CoE has had 65 trainees from a variety of disciplines (Table 2, following page). The NP student and physician trainees received both weekly formative evaluations and summative 360-degree evaluations by all team members at the end of the rotation. A number of instruments were used to evaluate the trainees’ CoE experience.

Trainees were given the Interdisciplinary Education Perception Scale (IEPS), a 12-item tool that was used pre

Table 1. Morning Mini-Conferences

Updates in Heme Malignancies
15 minutes sessions to be presented at 7:307:45

Topic	Specialty Presenter
Intro to Lymphomas	Hematologist Oncologist
Symptom Management (Fatigue)	Nurse Educator & Psychologist
Hodgkin Lymphoma	Hematologist Oncologist
Low grade Lymphomas	Hematologist Oncologist
Symptom Management- (Insomnia)	Nurse Educator & Psychologist
Burkitt’s Lymphoma	Hematologist Oncologist
Diffuse Large B Cell Lymphoma	Hematologist Oncologist
Chronic Lymphocytic Leukemia	Hematologist Oncologist
Symptom Management – (Nausea & Vomiting)	Nurse Educator
Pain management	Nurse Educator & Psychologist
Interpreting Lab Values in Lymphoma	Hematologist Oncologist
Survivorship Considerations in Patients with Lymphoma	Hematologist Oncologist & Nurse Educator
Palliative Care for Patients with Lymphoma	Nurse Educator & Social Worker

Figure 2. *Critical Components of CoE Curriculum***Critical Components of the Evidence-Based CoE Curriculum**

1. Patient-centered care requires **interprofessional collaboration among providers on the team** (Film clip of a multidisciplinary team vs an interdisciplinary team).
2. The CoE is known for integrating **patient navigation, distress screening, and survivorship** into patient care from diagnosis of cancer across the disease trajectory. (Limited slides with Case study approach)
3. Using **radiology as an adjunct** to physical exam is an important part of the clinical curriculum for diagnosis and evaluation of progression of disease. (Lecture/discussion/case study)
4. **Palliative care** should be considered from the time of a life-limiting cancer diagnosis. (Role play **communication** addressing goals of care and transition to hospice/palliative care; Revisiting IPC)

Table 2. *Trainees (n=65)*

Discipline	Frequency	Percentage
Graduate Nursing Students	16	25%
Family Medicine Residents	15	23%
Graduate Social Work Students	9	14%
Surgical Residents	6	9%
Medical Oncology Fellows	4	6%
Psychology Graduate & Post-doctoral Students	5	8%
High School Students interested in health care	4	6%
Miscellaneous Residents	2	3%
Medical Students & Undergraduate Nursing Students	4	6%

and post rotation to detect changes over time in attitudes toward interprofessional practice (Luecht, Madsen, Taugher, & Petterson, 1990). The IEPS contains three subscales: Competency and Autonomy, Perceived Need for Cooperation, and Perception of Actual Cooperation (Appendix I). Items on the tool included descriptors such as: “Individuals in my profession are able to work closely with individuals in other professions;” “Individuals in my profession have a higher status than individuals in other professions;” and “Individuals in my profession make every effort to understand the capabilities and contributions of other professions.”

Items are scored on a 6-point Likert scale from strongly disagree to strongly agree. The IEPS has been validated in Scotland, UK with eight health professions (nursing, dietetics, physical therapy, occupational therapy, podiatry, social work, prosthetics, radiography) and more recently used with medical students, pharmacy students, and physician assistants. Although the IPES has not been validated yet for use in the US, there are no other reliable and valid tools available that measure the constructs for our environment and for the mix of different professions we have as well as the IEPS does (Lie, Fung, Trial, & Lohenry, 2013).

Each week, physician trainees and nurse practitioner students participated in a formative evaluation of their ability to provide patient-centered care using the Patient Perception of Patient-Centered Care (PPPC) Instrument (Brown, Weston, McWhinney, McWilliam, & Freeman, 2003). The PPPC items evaluate the degree to which the patient perceives that the trainee uses patient-centered behaviors on a four-point Likert scale: “completely,” “mostly,” “a little,” and “not at all.” Examples of the nine-item tool includes questions such as, “To what extent was your patient’s main problem(s) discussed today?” and “How well do you think you understood your patient today?” In addition to the patient’s evaluation of a patient interaction, the trainee and the educator also completed their version of the PPPC. Immediately following the patient visit, the project educator reviewed the three PPPC evaluations for congruency and to identify trainee strengths and areas for improvement.

At end of a trainee’s rotation, a post-IEPS form was given along with a 360-degree evaluation of the trainee by all clinical faculty. The trainee was asked to evaluate his/her CoE experience. The four evaluative components of the trainees’ CoE experience are the same components as used in the 360-degree evaluation of the trainee: patient-centered care, effective listening skills, respecting and valuing of roles of interprofessional team, and team participation. Responses and scores ranged from “rarely” (1) to “some of the time” (2) to “most of the time” (3).

Results

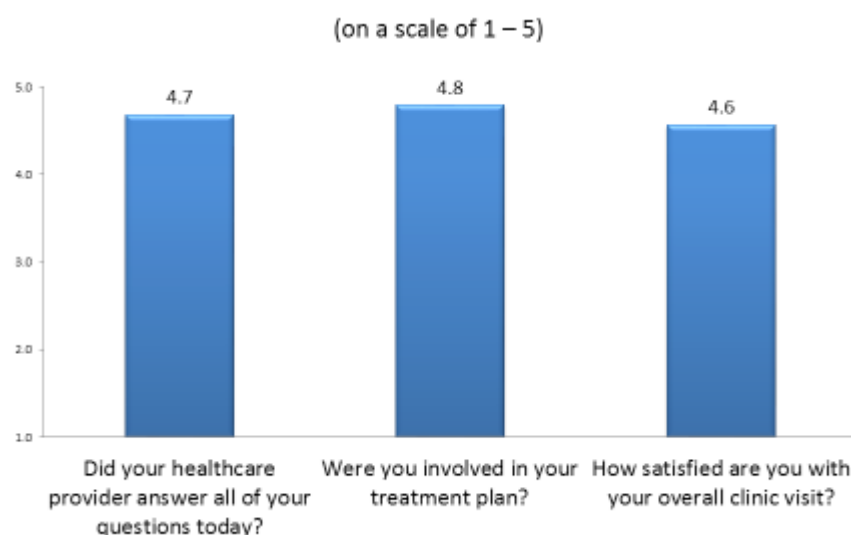
The goals of this project were to: 1) integrate the principles of interprofessional collaboration into an interdisciplinary clinic to improve the quality of cancer care and 2) educate health care professional trainees from a variety of disciplines in interprofessional practice by providing them with opportunities for exposure and immersion into IPC. This unique interdisciplinary clinic practice was designed to address the triple aims of quality cancer care: improving patient care, advancing health care, and lowering costs. The educational experience emphasized the quality of the training experience rather than the volume of patients seen, which is central to interprofessional practice.

Impact on the Patient

This IPCP has been well received by veterans and their family members. Patient satisfaction surveys were randomly distributed every six months during the project. Veterans reported satisfaction with eliminating transportation and travel burdens of multiple appointments and appreciated having all components of distress (physical, social, psychological, and spiritual) addressed at one visit. Quantitative results of the satisfaction surveys are reported in Figure 3.

Most importantly, veterans’ access to timely cancer care in this clinic exceeds the timeliness from consult to

Figure 3. *Patient Satisfaction Survey Results (n=96)*



clinic visit when compared with other similar clinics in this VAMC (Figure 4). This is most likely the result of the patient navigator on the team.

The CNS, who is the patient navigator for the IPC practice, has improved patient care (Curry & Smith, 2013). Patients now have a clinical manager who assists the veteran in getting timely cancer care from the time of diagnosis and consult to oncology to the first clinic appointment for treatment planning and discussion. In addition, the patient navigator, as the key point person for the patient being seen in this IPC practice, has provided emotional support and patient and family education for the veterans in our clinic via telephone and in-person in the clinic.

Impact on Trainees

This has been a rewarding experience for the trainees. Many reported that they have never observed social work and psychology practice in previous rotations, as they usually leave the room and move onto the next patient. Having the opportunity to stay with patient for the entire visit exposes the trainees to the importance of multiple team members' contributions to quality patient care.

Paired *t* tests were run on the PPPCs completed by patients and trainees on 27 clinic visits. Lower scores indicated more patient centered care than higher scores. Mean scores between the patient and the train-

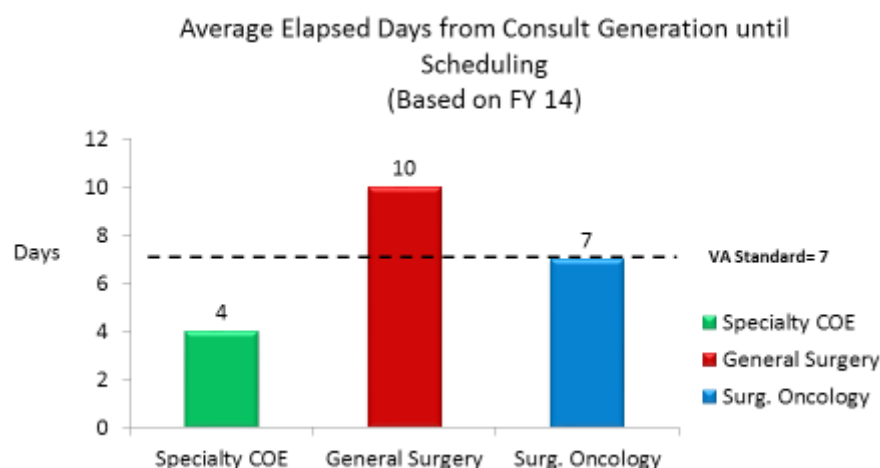
ees ($n = 27$) were 7.07 and 9.89 respectively and were statistically significant ($p < 0.001$). Additional paired *t* tests demonstrated statistically significant ($p = 0.003$) mean scores between patient and educator ($n = 15$) (5.91 & 9.27). Mean scores between the trainees and the educator and the trainer were not statistically significant. Patients perceived that the trainees were more patient centered than the perception of the trainees or educator. The trainees' and educator's perception of the trainee patient centeredness was not statistically significant.

Qualitative Findings

Additional comments on the trainees' evaluation forms demonstrated the value of the clinical experience. Examples from an MSN nursing student and a family medicine resident respectively demonstrate their appreciation, "This has been an amazing and highly beneficial experience...Thank you all for this experience, which will undoubtedly have a lasting impact on me and my career," and, "Working at the CoE enabled an experience in an exemplary collaborative care model for management of cancer patients. I really like the idea of reviewing patients in the morning and establishing the goals of the visit in advance..."

All trainees completed daily logs to document their exposure to different disciplines and recorded self-reflections of the experience. Examples of self-reflections included a comment, "Very beneficial to observe inter-

Figure 4. Consult Scheduling Wait Time ($n=404$)



actions with the other interdisciplinary team members” and a description of being able to see the NP in the Survivorship Care role and observe the NP speaking with the patient about treatment-related infertility.

Faculty evaluations of the trainees’ were also positive. Only two of 65 trainees received a poor evaluation, and that was due to a lack of respect for other disciplines’ roles. Both were asked to leave the clinical experience before their rotation was completed. The other 63 trainees who have rotated at least four weeks with the program were able to demonstrate the core competencies of interprofessional collaborative practice: Valuing interprofessional practice, respecting roles and responsibilities, using interprofessional communication skills, and participating in team and teamwork. Mean evaluation scores of patient-centered care, effective listening skills, respecting and valuing of roles of interprofessional team, and team participation were 11.8 on a scale of 1-12, with 12 being the highest possible score.

Impact on Faculty

The interprofessional faculty of the CoE has engaged in professional growth from the beginning of the project, with yearly team-building retreats. The faculty has learned to work as a team, to address conflict, and to be open to growth and change. In annual reviews, many have reported how rewarding it is to be part of this system of quality cancer care, to see the benefits of interprofessional practice for patients and families, and to be involved in the interprofessional training of multiple disciplines, not just their own. Team members have described their appreciation for immediate access to multiple disciplines’ expertise and the team approach to patient problems and plans of care during retreat evaluations of the project.

Cost-Effectiveness

Cost-effectiveness, essential for quality care, has been demonstrated in transportation cost savings to the veteran and to the VAMC (Smith, Curry, Lynch, Arfons & Mazanec, 2013). Multiple disciplines are able to have same-day patient visits, decreasing the number of travel days to the VA. Because so many of the veterans require assistance with transportation to get the VA, this was

a cost savings. The navigator role has significantly decreased the “no show” rates in the clinic from the VA standard of 10% to 4% (n = 701 clinic visits) during the last year of the grant. The strong reduction in the “no show” rate has the potential to improve the health of the patients as well as reduce “missed opportunities” or empty clinic slots during clinic.

Discussion

The trainees’ experience with exposure to interprofessional collaborative practice and patient-centered care was positive. Trainees reported the benefits of having quality time with the veterans and observing the interdisciplinary approach to cancer care. Trainees had the opportunity to practice patient-centeredness and to demonstrate valuing of the disciplines involved in the veterans’ care.

The significant quantitative findings on patient perception of patient centeredness were not surprising. Many trainees scored themselves lower than the veterans scored them. Because the veterans were consistently reporting that the trainees did an excellent job, the educator recorded her perceptions of the interaction so that the trainees would be able to see areas for improvement. Interestingly, the trainees’ and educator’s perception of the trainees’ patient centeredness was not statistically significant, indicating that the areas the trainees perceived as areas for improvement were consistent with those the educator identified.

The project benefited not only the veterans and the trainees, but also the faculty involved and the VAMC. Faculty reported satisfaction with interprofessional practice and with having designated time for teaching the principles of this type of practice to a variety of disciplines. The project demonstrated cost-effectiveness for the medical center and as a result of the positive outcomes from patient, professional, trainee, and financial perspectives, has become the model of cancer care for all types of cancer clinics at the Cleveland VAMC.

Limitations/Feasibility

Grant funding from the Offices of Academic Affiliations and Specialty Care provided the financial support

and protected time to train students from multiple disciplines. Training was focused on *the quality* of the IPCP experience rather than on *the number of patients seen*, an approach which provides a unique training opportunity. The ability to allow for this level of protective time may not be feasible in other training settings because of the patient and financial demands in many busy clinics. However, the faculty on this project recommend role-modeling “valuing and respecting” other disciplines by

- 1) encouraging trainees to spend time observing different health care professionals’ patient interactions and
- 2) providing trainees with the protected time to experience those quality interactions.

Summary

This interprofessional ambulatory cancer clinic model has been feasible and sustainable. At the completion of the three year project, the administration of the VAMC supported the continuation of this clinic and has adopted this model for the remaining cancer specialty clinics. Lung, prostate, and head and neck ambulatory clinics are now integrating this project’s IPC policies and procedures into their practices.

The educational process for preparing trainees in interdisciplinary collaborative practices has also continued even though the grant-funded project has ended. Trainee evaluations of the experience were so positive that all graduate schools involved with the project have asked the faculty to continue to provide this experience for their students. Although trainee and faculty satisfaction with this educational endeavor has been positive, additional educational research is needed to evaluate the sustainability of respecting and valuing interprofessional practice. In addition, research is needed to identify the ideal “dose” of the training necessary to change the health care culture from isolated “silo” practice to interprofessional collaborative practice.

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APPENDIX 1

INTERDISCIPLINARY EDUCATION PERCEPTION SCALE
PRE/POST

You will be asked to complete this at the beginning and end of your placement.

Using the scale below, (Strongly Disagree-1 to Strongly Agree-6) please rate your perception of your profession and other disciplines.

DESCRIPTOR	Strongly Disagree 1	Moderately Disagree 2	Somewhat Disagree 3	Somewhat Agree 4	Moderately Agree 5	Strongly Agree 6
Individuals in my profession are well trained.	1	2	3	4	5	6
Individuals in my profession are able to work closely with individuals in other professions.	1	2	3	4	5	6
Individuals in my profession demonstrate a great deal of autonomy.	1	2	3	4	5	6
Individuals in other professions respect the work done by my profession.	1	2	3	4	5	6
Individuals in my profession are very positive about their goals and objectives.	1	2	3	4	5	6
Individuals in my profession need to cooperate with other professions.	1	2	3	4	5	6
Individuals in my profession are very positive about their contributions and accomplishments.	1	2	3	4	5	6
Individuals in my profession must depend upon the work of people in other professions.	1	2	3	4	5	6
Individuals in other professions think highly of my profession.	1	2	3	4	5	6
Individuals in my profession trust each other's professional judgment.	1	2	3	4	5	6
Individuals in my profession have a higher status than individuals in other professions.	1	2	3	4	5	6
Individuals in my profession make every effort to understand the capabilities and contributions of other professions.	1	2	3	4	5	6
Individuals in my profession are extremely competent.	1	2	3	4	5	6
Individuals in my profession are willing to share information and resources with other professions.	1	2	3	4	5	6
Individuals in my profession have good relations with people in other professions.	1	2	3	4	5	6
Individuals in my profession think highly of other related professions.	1	2	3	4	5	6
Individuals in my profession work well with each other.	1	2	3	4	5	6
Individuals in other professions often seek the advice of people in my profession.	1	2	3	4	5	6

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